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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,558	01/22/2001	Timothy B. Meluch	ALT-5612 CON of DIV 1	3046

29200 7500 09/10/2003

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EXAMINER

FORTUNA, ANA M

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 09/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/767,558	MELUCH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ana M Fortuna	1723	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/28/2003 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 19, 20, 22, 23, 24, 25, 26, 28, 29, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nguyen et al (5,151,227)(hereinafter '227). Reference '227 discloses a melt-spun semi-permeable polysulfone membrane ( hollow fiber microporous membrane made by a spinning process (abstract, column 1, lines 7-17, column 3, lines 17-28, and column 11, lines 21-25). The membrane made from a composition consisting of a polysulfone polymer and a solvent for the polymer as claimed in claim 19 and dependent claims is disclosed by '227 (column 2, lines 42-45, column 1, lines 57-60). The membrane formed from a composition consisting essentially of polysulfone polymer, a solvent and non-solvent for the polysulfone, as

claimed in claim 22, is also disclosed as an optional (column 2, lines 59-68, and column 3, lines 1-2).

As to claims 20 and 23, the polysulfone polymers are disclosed in '227 (column 3, lines 31-38).

The membrane composition of claims 24-25 is disclosed in '227 (column 4, lines 43-51).

As to claim 28, the non-solvents are also disclosed, e.g. polyethylene glycol (column 5, second paragraph), other non-solvents for polysulfone are also disclosed (column 5, lines 67-68, column 6, lines 1-3).

The ratio of solvent to non-solvent of claim 29, is disclosed in '227 (column 11, lines 50-53), were a ratio show of solvent to non-solvent of 75:15 (equivalent to 3:1), is disclosed.

4. Claims 19, 20, 22, 23, 24, 25, 26, 28, 29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ly et al (4,970,034). The membrane solvent, non-solvent, composition and ratio of solvent and non-solvent is disclosed in the reference (abstract column 3, lines 1-68, column 4, lines 1-50 column 5, lines 11-48, column 7, lines 26-33).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21, 27, 28, 30-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (5,151,227)(hereinafter '227), as applied to claims 19-

20, 22-26, 28, 30-35, and further in view of in view of Pemawansa

(5,279,739)(hereinafter '739)(of record). '227 fails to disclose the list of solvents as claimed in claims 21, 26, 27, and 30-36, which includes tetramethylene sulfone (sulfolane) as solvent for polysulfone in the polysulfone membrane.

Reference '739 teaches sulfolane as suitable solvent for polysulfone polymers, it would in dissolving polysulfone in a process of making a symmetric microporous membrane is also disclosed, the reference further add non-solvents and hydrophilic additive, e.g. PVP, in the process of making the membrane (column 5, lines 52-65, in particular line 61). It would have been obvious to one skilled in the art at the time the invention was made to use sulfolane as solvent in the membrane of '227, since both references are directed to microporous membranes mad from the same polymeric material, e.g. polyether sulfone. It would have been obvious to one skilled in the art at the time the invention was made to mix or interchange solvents equivalents in the art in a process of making a polysulfone membrane, independently of the presence of additional components in the membrane dope. The non-solvents, membrane composition, and ratio of solvents and non-solvent, as claimed in the dependent claims 31, 33, 34-37, have been discussed in the limitations of claims 24, 25, 28, 30, above, and disclosed in '227. Polyether sulfone, polyethylene glycol as non-solvent are also disclose din '739 (column 7, lines 38-40, column 8, lines 56-58).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read 'Ana M Fortuna', written in a cursive style.

Ana M Fortuna  
Primary Examiner  
Art Unit 1723

AMF